Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for coating a ~~prosthesis~~ stent, the method comprising:

(A) providing information from one or more sources;

(B) electronically analyzing the information to generate at least one treatment plan for coating ~~a prosthesis~~ the stent; and

(C) instructing a ~~prosthesis~~ stent coating device to coat the ~~prosthesis~~ stent based on the generated treatment plan.

2. (Currently amended) The method of claim 1, wherein the ~~prosthesis~~ stent is coated at the time of surgery.

3. (Currently amended) The method of claim 1, wherein the ~~prosthesis~~ stent coating device uses at least one of: injection coating and contact printing.

Claims 4 and 5: Canceled

6. (Currently amended) The method of claim 1, wherein the information is analyzed using rules,

wherein the rules are based on at least one of: general and physician-specific clinical standards of practice, cost constraints, regulatory constraints, medical necessity requirements, patient specific requirements, and pharmacokinetic principles.

7. Canceled

8. (Currently amended) The system of claim 1, wherein the information includes one or more of: insurance information, credit information, patient records, patient lab data, ~~prosthesis~~ stent type information, prosthesis availability, coating information, and clinical study results.

9. (Currently amended) A ~~prosthesis~~ stent coating decision support system comprising:

a workstation to generate a treatment plan for coating a ~~prosthesis~~ stent to be implanted in a patient; and

a ~~prosthesis~~ stent coating device, wherein the workstation controls said ~~prosthesis~~ stent coating device to coat ~~a prosthesis~~ the stent according to the generated treatment plan.

10. (Currently amended) The system of claim 9, further comprising one or more information sources coupled to said workstation, the information sources providing information used by the workstation to generate the treatment plan,

wherein the information includes one or more of: insurance information, credit information, patient information, patient lab data, stent type information, stent availability, coating information, and clinical study results.

Claims 11 and 12: Canceled

13. (Currently amended) The system of claim 9, wherein the treatment plan includes one or more of: a recommendation as to whether to coat, a ~~prosthesis~~ stent coating specification, ~~prosthesis~~ stent architecture, ~~prosthesis~~ stent material, coating types, coating costs, coating methods, and patient insurance coverage.

14. (Currently amended) A ~~prosthesis~~ stent coating decision support method comprising:

(A) using a workstation to develop ~~a~~ one or more treatment ~~plan~~ plans;

(B) communicating the one or more treatment ~~plan~~ plans to a physician; and

(C) controlling a ~~prosthesis~~ stent coating device to implement one of the one or more treatment ~~plan~~ plans when the one treatment plan is approved by the physician.

15. (Currently amended) The method of claim 14, wherein the treatment plan recommends not coating ~~the prosthesis~~ a stent.

Claims 16 and 17: Canceled

18. (Currently amended) The method of claim 14, further comprising providing information to the workstation used to develop the treatment plan,

wherein the information includes one or more of: insurance information, credit information, patient information, patient lab data, stent type information, stent availability information, coating information, and clinical study results.

Claims 19 and 20: Canceled

21. (Currently amended) The method of claim 19, wherein the treatment plan includes one or more of: a recommendation as to whether to coat, a ~~prosthesis~~ stent coating specification, ~~prosthesis~~ stent architecture, ~~prosthesis~~ stent material, coating types, coating costs, coating methods, and patient insurance coverage information.

Claims 22 - 25: Canceled

26. (Currently amended) A computer readable medium containing instructions readable by a general purpose computer for use in a process for formulating a treatment plan for use in a ~~prosthesis~~ stent coating decision support system, the process including:

(A) analyzing information including at least one of: insurance information, credit information, patient ~~records~~ information, patient lab data, ~~prosthesis~~ stent type information, ~~prosthesis~~ stent availability information, coating information, and clinical study ~~results~~ results; and

(B) generating one or more treatment plans based on the analysis of step (A), wherein the one or more treatment plans include at least one of: a recommendation as to whether to coat, a ~~prosthesis~~ stent coating specification, ~~prosthesis~~ stent architecture information, stent ~~prosthesis~~ material, coating types, coating costs, coating methods, and patient insurance coverage information.

27. (New) A method of providing a coated stent to be placed in a patient, the method comprising:

receiving information, the received information comprising at least one of:

patient data;

data regarding a medical condition of a vessel in the patient;

stent data regarding a stent that is to be coated; and

available treatment data;

analyzing the received information; and

defining at least one stent coating profile as a function of the analysis of the received information.

28. (New) The method of claim 27, further comprising:

directing a coating device to coat the stent as a function of at least one of the at defined at least one stent coating profiles.

29. (New) The method of claim 27, wherein the analysis of the received information is rules-based and

wherein the rules are based on at least one of: general and physician-specific clinical standards of practice, cost constraints, regulatory constraints, medical necessity requirements, patient specific requirements, and pharmacokinetic principles.

30. (New) A computer-readable medium having stored thereon computer-executable instructions for performing the method as recited in claim 27.

31. (New) A method of providing a coating to a stent, the coating having at least one therapeutic agent and a coating profile, the stent to be placed in a lumen of a patient, the coating profile being a function of at least a condition of the lumen and a condition of the patient, the method comprising:

providing lumen condition information regarding the condition of the lumen from one or more sources;

providing patient condition information regarding the condition of the patient from one or more sources;

providing other information regarding one or more of: patient insurance information, patient credit information, patient records, patient lab data, stent type information, stent availability, coating material information, and clinical study results;

generating the coating profile for the stent as a function of an analysis of the lumen condition information, the patient condition information, and the other information; and

transmitting the coating profile to a stent coating device for application of the coating to the stent.

32. (New) The method of claim 31, wherein generating the coating profile comprises electronically analyzing at least one of: the lumen condition information, the patient condition information, and the other information.

33. (New) The method of claim 31, wherein the coating profile comprises tailored dosing,

wherein tailored dosing comprises at least one of:

providing higher concentrations of anti-proliferative drugs for lacerated lesions in the lumen;

providing lower dosing for intact endoluminal surfaces as compared to ruptured sites; and

providing immunomodulators for thin-capped lesions to prevent rupture of vulnerable plaque.

34. (New) The method of claim 31, wherein the lumen condition information comprises:

information from imaging (IVUS) regarding characteristics of a lesion in the lumen.

35. (New) The method of claim 34, wherein the coating profile comprises at least one of:

in the case of a lesion occurring at the branching of a vessel, depositing more therapeutic agents at the branch;

depositing more therapeutic agents at an area of higher lesion buildup than at an area of lesser lesion buildup;

depositing a first dosage of a therapeutic agent for a calcified lesion;

depositing a second dosage of a therapeutic agent for a non-calcified lesion;

depositing a higher dosage of antiproliferatives for an ostial lesion;

depositing a gradient of therapeutic agents for longer lesions to lessen drug washout; and

depositing multiple drugs with different controlled release characteristics wherein the first therapeutic agent released is an anti-proliferative and a next therapeutic agent released is a cell stimulant.

36. (New) The method of claim 31, further comprising:

analyzing at least one of the lumen condition information, the patient condition information, and the other information using rules,

wherein the rules are based on at least one of:

general and physician-specific clinical standards of practice,

cost constraints,

regulatory constraints,

medical necessity requirements,

patient specific requirements, and

pharmacokinetic principles.

37. (New) A system for providing a coating to a stent, the coating having at least one therapeutic agent and a coating profile, the stent to be placed in a lumen of a patient, the coating profile being a function of at least a condition of the lumen and a condition of the patient, the system comprising:

means for providing lumen condition information regarding the condition of the lumen from one or more sources;

means for providing patient condition information regarding the condition of the patient from one or more sources;

means for providing other information regarding one or more of: patient insurance information, patient credit information, patient records, patient lab data, stent type information, stent availability, coating material information, and clinical study results;

means for generating the coating profile for the stent as a function of an analysis of the lumen condition information, the patient condition information, and the other information; and

means for transmitting the coating profile to a stent coating device for application of the coating to the stent.

38. (New) The system of claim 37, wherein the means for generating the coating profile comprises means for electronically analyzing at least one of: the lumen condition information, the patient condition information, and the other information.

39. (New) The system of claim 38, wherein the coating profile comprises tailored dosing,

wherein tailored dosing comprises at least one of:

providing higher concentrations of anti-proliferative drugs for lacerated lesions in the lumen;

providing lower dosing for intact endoluminal surfaces as compared to ruptured sites; and

providing immunomodulators for thin-capped lesions to prevent rupture of vulnerable plaque.

40. (New) The system of claim 37, wherein the lumen condition information comprises:

information from imaging (IVUS) regarding characteristics of a lesion in the lumen.

41. (New) The system of claim 39, wherein the coating profile comprises at least one of:

in the case of a lesion occurring at the branching of a vessel, depositing more therapeutic agents at the branch;

depositing more therapeutic agents at an area of higher lesion buildup than at an area of lesser lesion buildup;

depositing a first dosage of a therapeutic agent for a calcified lesion;

depositing a second dosage of a therapeutic agent for a non-calcified lesion;

depositing a higher dosage of antiproliferatives for an ostial lesion;

depositing a gradient of therapeutic agents for longer lesions to lessen drug washout; and

depositing multiple drugs with different controlled release characteristics wherein the first therapeutic agent released is an anti-proliferative and a next therapeutic agent released is a cell stimulant.

42. (New) The system of claim 29, wherein the means for generating comprises means for analyzing at least one of: the lumen condition information, the patient condition information, and the other information using rules,

wherein the rules are based on at least one of:

general and physician-specific clinical standards of practice,

cost constraints,

regulatory constraints,

medical necessity requirements,

patient specific requirements, and

pharmacokinetic principles.